

viscus and of the abdominal membranes immediately external to it (*peritonitis*), which was the chief lethal morbid appearance observed in the dissection of the Penguin.

Among the rarer anatomical characters in birds may be noticed the well-developed urinary bladder, which, in the present species, in the almost empty state, was continued from the fore part of the urogenital compartment of the cloaca for $1\frac{1}{2}$ inch in length and 1 inch in breadth: the muscular tunic was well developed.

2. NOTICE OF A NEW SPECIES OF AUSTRALIAN SPERM WHALE (*CATODON KREFFTII*) IN THE SYDNEY MUSEUM. BY JOHN EDWARD GRAY, PH.D., F.R.S., V.P.Z.S., F.L.S., ETC.

In a letter which I lately received from Mr. Gerrard Krefft, the intelligent Secretary and Curator of the Australian Museum, he sent me some photographs (taken like those formerly sent by Mr. Henry Barnes) of a separate atlas vertebra and of the second and other cervical vertebræ united into one mass of a species of Whale, which are contained in the museum under his charge. The two bones, though not united, fit one another so exactly that Mr. Krefft has no doubt of their having belonged to the same animal; and the photographs sent justify this conclusion. However, should there be any mistake in this matter, it will not in the least invalidate the conclusion that I have come to, from the examination of these photographs, that they indicate the existence of a second species of Sperm Whale in the Australian Seas, very distinctly characterized by the subcircular form of the atlas vertebra and of the neural canal in it.

The mass formed by the second and other cervical vertebræ is somewhat similar to these bones in the skeleton of the Australian *Catodon* lately received by the Royal College of Surgeons, which I hope will shortly be described by Mr. Flower, the energetic Curator of their Museum, who, in his late paper on the *Balænidæ*, has shown how well he can describe and determine the species of Whales.

The genus *Catodon* should be divided into two subgenera, according to the form of the atlas, thus:—

I. *The atlas oblong, transverse, nearly twice as broad as high; the central canal subtrigonal, narrow below.* *Catodon*.

1. *CATODON MACROCEPHALUS* of the Northern Ocean. A skeleton from Scotland, in the British Museum.

2. *CATODON AUSTRALIS*, Macleay, of the Southern Ocean. A skeleton in the Museum of the Royal College of Surgeons, from Hobart Town.

II. *The atlas subcircular, rather broader than high; the central canal circular in the middle of the body, widened above.* *Meganeuron*.

CATODON (MEGANEURON) KREFFTII, sp. nov.

The atlas vertebra oblong transverse, about one-third wider than high; the lateral processes only a little produced beyond the articular surface, with an arched edge; the lower edge arched; the neural arch low, broad, with a slight central prominence on the upper surface; the canal for the spinal marrow very large, circular, rather contracted on the sides above, and then dilated, becoming oblong and transverse.

The atlas is thin, high, being only about one-fourth wider than it is high. The lower and lateral margins are arched, the lower edge being the most so. The neural arch is low, transverse, with a nearly straight lower edge. It is thickest in the middle. The upper surface is shelving on the sides, with an angular central prominence.

The central aperture is very large, nearly circular, and dilated above into an oblong transverse aperture, which is rather wider than the widest part of the central circle. The front articulating surface is horseshoe-shaped, continued to the upper outer angle, and obliquely shelving off on the upper edge to the base of the oblong part of the aperture. The articulating surface of the hinder side is similar; but the articulating surface is shorter at the sides, and transversely truncated in a line with the middle of the upper, oblong, transverse opening (figs. 1, 2).

Fig. 2.

Fig. 1.

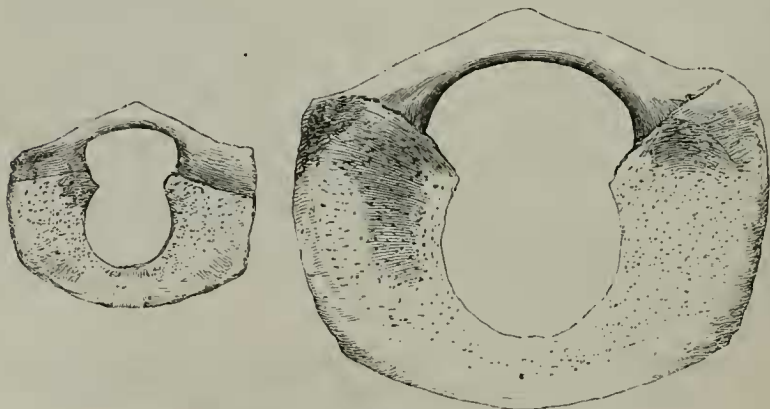


Fig. 1. Front of atlas of *Catodon krefftii*.
2. Hinder side of ditto (reduced).

The second and other cervical vertebræ are all united together into one mass, ankylosed by their bodies, lateral processes, and neural arches. The neural arches form a triangular mass, which is strongly keeled on the central line; and the keel is stronger and produced into an acute point at the hinder end (figs. 3, 4).

The lateral processes of the second, third, and fourth vertebræ are produced and united into a broad, thick, angular process, which is

expanded at the side, giving the united mass a rhombic appearance, the width of the side being about one-fourth more than the height of the mass.

Fig. 3.

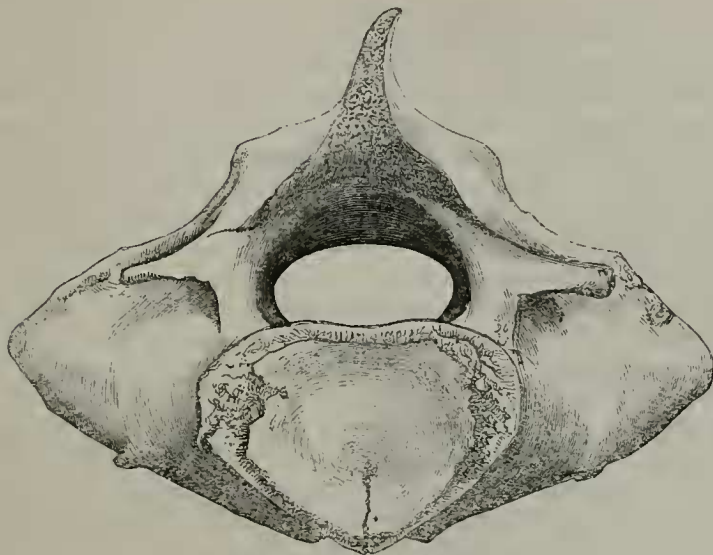
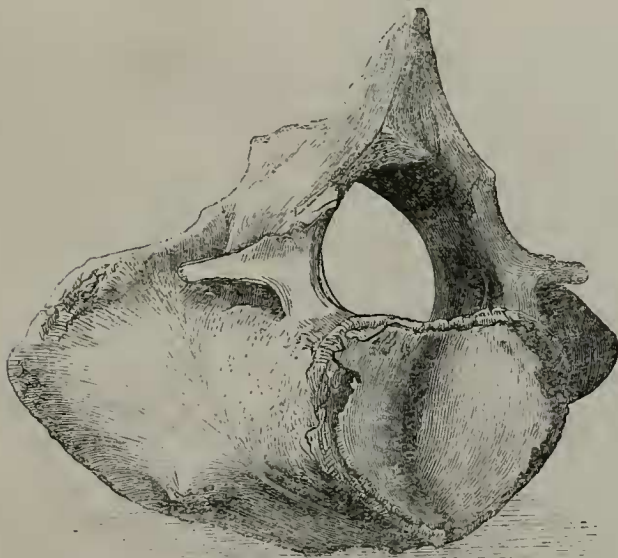
Hinder view of cervical vertebræ of *Catodon krefftii*.

Fig. 4.

Side view of the hinder side of the cervical vertebræ of *Catodon krefftii*.

There is a tubercle, which is most probably the end of the lower lateral process of one of the anterior cervical vertebræ, at the lower part of the hinder side of the front lateral expansion.

The three hinder vertebræ have no distinct lower lateral processes; their place is only marked by three slight ridges on the lower edge of the hinder side of the mass. The upper lateral processes of the hinder cervical vertebræ are small, slender, forming a strap-like section, rather tapering towards and truncated at the tips on the side of the apertures for the passage of the nerves for the neural canal. The neural canal is rather large, oblong transverse, the height being about two-thirds of the width; it is rather larger and higher behind.

The hinder surface of the body of the last cervical vertebra is oblong transverse, about two-thirds of the height of its width at the widest part; the lower edge is rounded and rather angularly produced in the centre, and the upper margin transverse, with a slight central depression; the surface is concave, with a central, linear, perpendicular, compressed line.

The cervical vertebræ in *Catodontidæ* are united into a single mass by their bodies, the neural arch, and the lateral processes. The lateral processes of the anterior vertebræ are produced, and form a thick, subconical, triangular prominence on the side of the mass. The front side is nearly flat, and the lateral processes of the hinder vertebræ are shorter and shorter to the last. The hinder surface shelves from before backwards, and is crested with some conical prominences which indicate the lateral processes of the different vertebræ of which the mass is formed. The first dorsal vertebra is sometimes partially anchylosed with the seventh cervical.

The arm-bones are very short.

3. A REVISION OF THE GENERA AND SPECIES OF AMPHISBÆNIANS, WITH THE DESCRIPTIONS OF SOME NEW SPECIES NOW IN THE COLLECTION OF THE BRITISH MUSEUM. BY DR. JOHN EDWARD GRAY, F.R.S., F.L.S., V.P.Z.S., ETC.

Sir Andrew Smith having kindly presented to the British Museum, along with a number of other reptiles which he has described, the types of his genus *Monotrophis*, which I had not before seen, and having received from Mr. Welwitsch and from the collection of my late excellent and lamented friend Dr. Balfour Baikie two Amphisbænians from Africa, and from Mr. Bates a species from the Amazons which I believed had not hitherto been recorded in the Catalogue, I proceeded to examine them; and, for the purpose of making the comparison the more complete, I was led on to study all the specimens of this tribe which we have in the Museum.

The natural result of such an examination was, that I was dissatisfied with the manner in which the species had hitherto been arranged and described, and, after repeated examination, I have reduced my observations to the following results:—

The determination of the species themselves, and the means which a paper resulting from the re-examination and comparison of all the species in a large collection afford to a student, are much more certain than any isolated description of the species regarded as new,